

Abstract of the Disclosure

A system and method is provided for monitoring the operating condition of a pump by evaluating fault data encoded in the instantaneous current of the motor driving the pump. The data is converted to a frequency spectrum which is analyzed to create a fault signature having fault attributes relating to various fault conditions associated with the pump. The fault signature is then input to a neural network that operates in conjunction with a preprocessing and post processing module to perform decisions and output those decisions to a user interface. A stand alone module is also provided that includes an adaptive preprocessing module, a one-shot unsupervised neural network and a fuzzy based expert system to provide a decision making module that operates with limited human supervision.